Secondary Markets for Patents

Presentation to Berkeley IP Valuation conference

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Haas School of Business
UC Berkeley

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The Current Paradigm: A Closed Innovation System

Science & Technology Base

Research Investigations

Development

New Products/Services

The Market

R → D
The Open Innovation Paradigm

Internal Technology Base

External Technology Base

Licensing

Technology Spin-offs

New Market

Current Market

Technology Insourcing

Other Firm’s Market
Burning Issues in IP Management

- Valuation
- Trolls
- Impact on the Innovation System
- Inefficiencies in the Market for IP
- Can secondary markets help sort this out privately, without government/legislation?
Example of recorded reassignment:

“**Intellectual Ventures** LLC, a technology development and licensing start-up formed by Microsoft veterans Nathan Myhrvold and Edward Jung, has won the bidding for **General Magic** Inc's portfolio of patents and other intellectual property, paying $300,000.”

Reassignments Growing

Number of Patents being reassigned each year

- (2003) = 93,355
- (1998) = 58,138
- (1988) = 34,449
- (1980) = 2,798
Overall Annual Reassignment Rate is increasing

Hitting Rate 1993-2003
(Patents reassigned over Outstanding patents)

2003: 4.0%

1993: 2.2%
The Reassignments of the “Symbios Patents”

1995.08.28 Hyundai reassigns 63 patents to Symbios.

1995.03.14 AT&T sells NCR Microelectronics to Hyundai. 60 patents are reassigned.

1998.03.10 Symbios changes name. 77 patents are reassigned.

1998.12.04 End of licensing agreement: 64 patents are reassigned from Symbios to Hyundai.

1997: Hyundai sells Symbios to Adaptec ($775 mil)

1998.11.27 Security agreement with Lehman. 72 patents reassigned.

2004.10.12 Hyundai spin-offs Hynix Semi. 280 patents are reassigned.
Security: US 5149397

- Two reassignments for this patent:

<table>
<thead>
<tr>
<th>Date</th>
<th>Assignor</th>
<th>Assignee</th>
<th>Reassignment Kind</th>
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<tr>
<td>06/21/2002</td>
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<td>06/25/2003</td>
<td>Xerox</td>
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<td>Security Interest</td>
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## Top Re-Assignees (H01L) “BUYERS”

<table>
<thead>
<tr>
<th>Company Name</th>
<th>Tot. Patents Reassigned TO company</th>
<th>Tot. Patents Reassigned FROM company</th>
<th>Tot Patents Reassigned TO C as % of total Patents</th>
<th>Tot Patents Reassigned FROM C as % of total Patents</th>
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<tbody>
<tr>
<td>NEC Corporation</td>
<td>2166</td>
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<td>55%</td>
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<td>Hewlett-Packard</td>
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<td>Nortel Networks</td>
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<td>76%</td>
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<tr>
<td>Lucent</td>
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<tr>
<td>Conexant Systems</td>
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<td>148</td>
<td>77%</td>
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<tr>
<td>Hitachi</td>
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## Top Re-Assignors (H01L) “SELLERS”

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<tr>
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<td>Motorola</td>
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<td>Hewlett-Packard</td>
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<td>Conexant Systems</td>
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Business model experiments emerging as well

– Intellectual Ventures: 20,000+ patents, $5 billion under management, major licensing deals
  • Also per patent licensing fees
– RPX: defensive patent pool, revenues from membership fees from $35K to $5 million
  • No per patent licensing fees
– IBM, HP exploring patent insurance models
– Halliburton patent application for patent trolling
  • To be used defensively if granted
– Merck Gene Index
  • Pre-emptive publishing
Implications

• More open innovation processes supply and demand secondary markets for IP
• Still highly inefficient market, poor information
  – Insiders, and the rest of us
  – Unlikely to be socially optimal, or even allocatively efficient
• Opportunities exist to enhance availability of information on secondary markets
  – Reduce price dispersion, information asymmetries
• Pre-emptive strategies may become more common
Backup slides
(Patents reassigned as "Security or Release of Security")

1983: 28%

1993: 46%

2003: 42%
What does a Reassignment Title grant?

• The certificate of such acknowledgment constitutes *prima facie evidence* of the execution of the assignment, grant, or conveyance.

• This is both the official language of the USPTO and it has been confirmed by IP lawyer.
  – However it is not clear whether patent reassignments have ever been used in court during patent litigations.
Are Reassignments part of a more complex deal?

• A follow up to John King’s interview: “usually companies reassign patent when they are selling/acquiring other assets, or in situations of merging/spinoffs, when the structure of corporate control changes.”

• What is the percentage of transactions that happen between:
  – previously independent corporations
  – Internal transactions between subsidiaries
  – merging corporations
  – spin-off operations
  – results from bankruptcies
  – security agreements
  – alliances/joint ventures and the likes
  – pure technology transfers
Definitions

Throughout this paper we will use the following definitions:

- **Reassignment event.** It happens when a patents gets reassigned once.
- **Reassigned Patents.** A patent is reassigned when a reassignment occurs. For the way the IFI database is designed, when counting reassignment of patents, and aggregating these reassignment by years, we are counting only one reassignment per patent even if this patent has been reassigned more than once each year. i.e. reassignment events $\geq$ reassigned patents
- **Vintage.** Is the registration year of a reassigned patent
- **Maturation.** Difference (in years) between the date of the reassignment and the date of the patent’s registration
- **Assignee (of reassignment):** is the company/individual that becomes the assignee of the patent after the reassignment
- **Assignor (of reassignment):** is the company/individual that was the assignee of the patent prior of patent’s reassignment
- **Hitting Rate:** number of reassignments (events or patents) over number of patents
- **IPC:** International Patent Class (see appendix for the description of the classes codes that have been here referred to).
“Restless…”

<table>
<thead>
<tr>
<th>Patent class</th>
<th>Total Patents</th>
<th>Pat_abs_ranking</th>
<th>Total Reassignments</th>
<th>Reass_abs_ranking</th>
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</table>
Let’s do the numbers

• Overall, from 1979 to October 2004
  – 623,583 patents have been reassigned at least once.
  – 969,168 times a patent has been reassigned at least once a year.
  – On average, for the entire period, excluding the patents that have not been reassigned, a patent is reassigned 1.6 times.
  – Average reassignment/patent ratio is 0.17 (sd 0.55)

• Most of the patent reassignments recorded in the IFI Claims database (approximately 90-95%) happen between corporations.
  – These numbers do not take into account the first reassignment between inventor and employer, which the Dialog database “incorporates” in the patent information by recognizing the company where the inventor is working as the “original assignee” of the patent.
  – Reassignments between individuals are however present. Looking at a large sample of patents (semiconductors International Patent Class H01L), where we see recorded patent transactions between an individual inventor and a corporation
    • More rarely, we see a corporation assign a patent to an individual